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DEPARTMENT OF EDUCATION

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# INDUSTRIAL, TECHNICAL AND ART SCHOOLS

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## EXTRACTS

FROM

### The Industrial Education Act. Instructions and Regulations

FOR THE

### Establishment, Organization and Management of Schools and Classes

AND FOR THE

### Apportionment of the Legislative Grants

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TORONTO:

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## PREFATORY NOTE

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THIS Circular is now issued for the guidance and information of Advisory Industrial Committees in advance of the Manual dealing with all classes of Vocational Schools, the publication of which will be announced shortly. It replaces pages 13 to 122 of Bulletin No. 2 on Industrial, Technical and Art Education.

October, 1914.

# Industrial, Technical and Art Schools

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## THE INDUSTRIAL EDUCATION ACT

### DEFINITION OF NAMES

1. In *The Industrial Education Act* and the Regulations of the Department of Education, the name Industrial is applied to both day and evening schools and classes for the preparation of workmen and workwomen; and the name, Technical, to those for the preparation of foremen and forewomen and the holders of minor directive positions in the trades. Manual Training and Household Science are classed as cultural and practical subjects of the High and Public School courses of study whether they are taken up in day or evening classes. While introductory to Industrial and Technical courses, they are, however, neither Industrial nor Technical themselves. The foregoing distinctions should be borne in mind.

### PROVISIONS OF THE ACT

2. At the session of the Legislature in 1913 *The Industrial Education Act* replaced all the preceding Acts which dealt with elementary Industrial, Technical and Art education; and this Act, it is important to remember, is the only one under which Industrial, Technical and Art Schools can now be established and maintained at the public expense.

### CLASSES OF SCHOOLS

3. Section 4 of the Act provides for the following classes of schools, which a High School Board or a Board of Education of any city, town, or village, or an Urban Continuation School Board may establish with the Minister's approval:

#### I Day Schools

(1) General Industrial Schools and Courses for instruction in such subjects as may form a basal preparation for the trades, including workshop practice, with correlated drawing, English, practical mathematics and science, and the essential subjects of a good general education.

(2) Special Industrial Schools and Courses, for instruction in the theoretical and practical work of particular trades carried on in the city,

town or village, and when deemed desirable in the essential subjects of a good general education.

(3) Technical High Schools and High School Courses for instruction for minor directive positions in industrial establishments.

(4) Part-time co-operative Industrial Courses in which and under such conditions as may be agreed upon between the employer and the Advisory Industrial Committee, apprentices, whether articled or not, employed in the workshops may receive in the day schools instruction bearing upon their trades; and pupils attending the day schools may receive practical instruction in the workshops.

(5) Schools and courses for instruction in the fine and applied arts.

## **II Evening Schools**

(6) Industrial, Technical, and Art Evening Schools, in which workmen and workwomen employed during the day may receive theoretical and practical instruction in their trades or callings.

## **ADVISORY INDUSTRIAL COMMITTEE**

4. Under this Act also the control of these schools is vested in an Advisory Industrial Committee, composed of eight or twelve persons as the Board may direct, the members of which shall be appointed by the Board as follows:—

(1) When the number of persons is eight,

(a) four members of the Board, including one representative of the Board of Public School Trustees and one representative of the Board of Separate School Trustees, if any;

(b) two persons not members of the Board who are engaged as employees in the manufacturing or other industries carried on in the local municipality or in the county or district, in which the school is situate; and

(c) two other persons not members of the Board who are employers of labour or directors of companies employing labour in manufacturing or other industries carried on in the local municipality or in the county or district, in which the school is situate.

(2) When the number of persons is twelve,

(a) Six members of the Board including one representative of the Board of Public School Trustees and one representative of the Board of Separate School Trustees, if any,

(b) Three persons not members of the Board who are engaged as employees in the manufacturing or other industries carried on in the local municipality or in the county or district in which the school is situate, and

(c) Three other persons not members of the Board who are employers of labour or directors of companies employing labour in manufacturing or other industries carried on in the local municipality or in the county or district in which the school is situate.

#### **ADMISSION QUALIFICATIONS**

5. Section 5 of the Act provides as follows:—

(1) Pupils duly admitted under the Regulations to a High School may be admitted to a Technical High School or High School Course,

(2) Subject to the Regulations and on the report of the Principal, approved by the Advisory Industrial Committee, pupils of at least the standing of the Fourth Form of the Public and Separate Schools may be admitted to a general or special industrial school or part-time co-operative industrial course or a school or course for instruction in the fine and applied Arts; and

(3) Workmen or workwomen employed during the day may be admitted to an Industrial, Technical, or Art Evening School.

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#### **INSTRUCTIONS AND REGULATIONS**

##### **QUALIFICATIONS OF TEACHERS**

6. Each teacher shall possess suitable expert knowledge of his subject. For the academic subjects the ordinary certificated teacher will suit, provided he has duly familiarized himself with industrial requirements. Instructors in shop work should be skilled mechanics. Not only will such teachers give, as, indeed, only they can give, the necessary practical turn to the work, but they will command the confidence and sympathy of the students. For the theoretical and practical technical work, teachers specially trained at industrial or technical colleges are indispensable.

##### **COURSES OF STUDY**

7. The needs of the different localities vary so much that any settlement of the details of the courses must be made by the local authorities.

The Industrial Education Act, accordingly, leaves the initiatory steps to the Advisory Committee. After the subjects have been selected, the next step should be the submission of a report by the teacher in charge to the Advisory Committee upon the details, followed by due consideration by the Committee and the Board, before submission to the Minister for his approval. The first year must, however, be more or less one of experiment, and courses should be modified from time to time in accordance with the experience of those concerned. For the same reason, the Minister will be prepared to approve of any modification of the Regulations that, in his judgment, local conditions may justify.

For suggestions in constructing the courses recognized by *The Industrial Education Act*, all concerned should refer to the various systems and courses of study which for this purpose were included in the Superintendent's report on *Education for Industrial Purposes*, published in 1911, and to the General Industrial courses detailed in Bulletin No. 2 of the Ontario Department of Education on Industrial, Technical, and Art Education. See pages 20-28; 53-63; 77-86; 94-96.

## **SCHOOL TERMS AND SESSIONS**

### **I Day Schools**

8. (a) Except with the special approval of the Minister, the limits of the school terms shall be the same as those of the High Schools.

(b) The hours of opening and closing the daily session and the recesses shall be the same as those of the High Schools; but where practical work is emphasized in the programme, the hour for closing may be extended by the Advisory Committee to five o'clock.

### **II Evening Schools**

(a) The Evening School year shall consist of two terms beginning and ending on such dates and with such vacations as The Advisory Industrial Committee may determine.

(b) The School shall be open for at least an hour and a half of actual instruction on each of at least two evenings a week.

## **DISTRIBUTION OF LEGISLATIVE GRANTS**

9. When the accommodations, the equipment, the text-books, the qualifications of the staff, and the courses of study are satisfactory to the Minister, and when the Board is not in receipt of a special Legislative grant for Industrial, Technical, or Art Schools, the Legislative grant for Evening and Day Industrial, Technical, and Art Schools shall be distributed under Section 6 (1) of *The Department of Education Act*, in accordance with the following scheme:

## I Day Schools

(1) A fixed grant on Forms as follows:—

(a) Full-time Forms approved by the Minister. A grant of \$100 for each of the first five forms established; \$75 for each of the next five; and \$50 for each of ten succeeding forms.

(b) Part-time co-operative Forms approved by the Minister. A grant of \$75 for each of the first five forms established; \$50 for each of the next five; and \$25 for each of ten succeeding forms.

(2) A grant on salaries of staff approved by the Minister, proportioned as follows on the total salaries of the staff:

In cities with a population of 150,000 and over, one-third; in other cities, one-half; in towns, two-thirds; and in villages, five-sixths. Maximum grant, \$5,000.

(3) An initial grant of 40 per cent. on new equipment, especially provided in any year and approved by the Minister for Day Industrial, Technical, and Art Schools, and 20 per cent. on the same equipment for each of three succeeding years. Maximum grant in any year, \$2,000.

## II Evening Schools

(a) A grant on salaries of staff approved by the Minister, proportioned as follows on the total salaries of the staff:

In cities with populations of 150,000 and over, one-third; in other cities, one-half; in towns, two-thirds; and in villages, five-sixths. Maximum grant, \$3,000.

(b) An initial grant of 40 per cent. on new equipment, especially provided in any year and approved by the Minister, for Evening Industrial Technical, and Art Schools, and 20 per cent. on the same equipment for each of three succeeding years. Maximum grant in any year, \$1,000.

## III Day and Evening Schools

(a) When the accommodations have been specially provided for Day or for Evening Industrial, Technical, or Art Schools, the sums apportionable under the following scheme shall be payable for each item in actual use.

(b) When the accommodations provided for Day Classes are used also for Evening Classes or vice versa, or when accommodations provided for High, Public, Separate, or Continuation Schools or other purposes are used for evening Industrial, Technical or Art Schools, one quarter of the sums apportionable under the following scheme shall be payable for each item in actual use for said classes, in addition to any other Legislative grants that may be payable on such accommodations.

I. For each item of the following, according to number, adequacy, and suitability:

GRADE.

	I	II	III	IV
Class-rooms.....	\$6 00	\$4 50	\$3 00	\$1 50
Lecture Rooms.....	9 00	7 00	4 50	2 50
Laboratories.....	9 00	7 00	4 50	2 50
Workshops.....	9 00	7 00	4 50	2 50
Teachers' Offices.....	3 00	2 50	1 50	1 00
Administrative Offices.....	3 00	2 50	1 50	1 00
Lavatories.....	9 00	7 00	4 50	2 50
Waiting and Assembly Rooms .....	9 00	7 00	4 50	2 50
Lunch Rooms.....	9 00	7 00	4 50	2 50
Halls.....	9 00	7 00	4 50	2 50

Maximum grant, \$400.

NOTES. 1.—The class-rooms include rooms for academic work, art work, drafting, and designing.

2.—The laboratories include the rooms for chemistry, general physics, electricity, mathematics, and engineering.

3.—The workshops include the rooms for:—

- (a) Claymodelling, woodcarving.
- (b) Woodworking, woodturning, forging, machine work, and a construction room.
- (c) Hand sewing, machine sewing, dressmaking, millinery.
- (d) Kitchen, laundry, dining-room, and a model household suite of rooms.
- (e) Any other practical subject approved by the Minister.

II. For each item of the following, according to its adequacy and suitability:

GRADE.

	I	II	III	IV
Schools Grounds.....	\$16 00	\$12 00	\$ 8 00	\$ 4 00
School Building.....	24 00	18 00	12 00	6 00
Assembly Hall.....	16 00	12 00	8 00	4 00
Supply Room.....	6 00	4 50	3 00	1 50
Gymnasium.....	20 00	15 00	10 00	5 00
Reading-room and Library.....	9 00	7 00	4 50	2 50
Exhibition Room.....	9 00	7 00	4 50	2 50

Maximum grant, \$100.

Notes. 1.—The Assembly Hall should be provided with platform and seats, and should be suitably decorated.

2.—The Supply Room is a room for selling material for the courses, or for supplying it free.

3.—For the requirements of the Gymnasium, see High School Circular 8. When practicable, a swimming pool should also be provided.

4.—The Reading-room and Library should be provided with book-cases, tables, chairs, and office furniture.

5.—The Exhibition Room should be supplied with cases for the finished products of the school and for illustrative material.

III. For each item of the following concerned in I and II above, according to number, adequacy, and suitability:

GRADE.

	I	II	III	IV
Black-boards.....	\$ 2 00	\$1 50	\$1 00	\$0 50
Desks and Chairs.....	8 00	6 00	4 00	2 00
Heating.....	12 00	9 00	6 00	3 00
Lighting.....	6 00	4 50	3 00	1 50
Ventilation.....	12 00	9 00	6 00	3 00
Water Supply.....	6 00	4 50	3 00	1 50
Power Supply.....	12 00	9 00	6 00	3 00

Maximum grant, \$500.

NOTE.—In grading, under III, the different items of accommodation in I and II above, the capacity of each item shall be valued in class-room units.

**CONTINGENCY OF GRANTS**

10. If the amount voted by the Legislature is insufficient to pay in full the apportionments under the foregoing scheme, or, if there is a balance left over after payment in full, the Minister may make a *pro rata* reduction or increase.

**ACCOUNTS**

11. The receipts and expenditures on account of the Day and the Evening classes shall be kept separate from each other and from those for other school purposes, and shall be separately reported to the Minister.

**PROCESS OF ESTABLISHMENT**

12. The first step in the establishment of industrial classes is the formation of an Advisory Industrial Committee. The members should be selected with considerable care as much of the success depends upon the efforts put forth by this Committee. It should be as representative as possible of the different industries of the locality. The meetings should be held at stated times, at least monthly, at the school and not in an office down town. All the members should be workers and shu'd not regard their duties as confined to attending the meetings. They should visit the school regularly, inspect the registers, and take an interest in the work generally. The members can do effective work among the people by advocating on every possible occasion the training given by the school. Where there are likely to be large classes of girls and women it is advisable to appoint at least one woman on the Committee.

## PUBLICITY

13. The school should be well but judiciously advertised by posters in the factories and elsewhere, and by the distribution of circulars to factory employees and artisans. Posters to be placed in factories should be provided with a space for the endorsement of the firm, and circulars should be provided with a detachable application blank. The fullest use should be made of the local newspapers. The classes should be brought closely to the attention of all boys and girls in forms III and IV of the Public and Separate Schools who do not intend to enter the High Schools. The school should be opened some days before actual class work begins and an announcement made that the principal and his staff are ready to advise intending students and their parents as to the course of study best suited to the individual.

Suggestions for securing and for maintaining an attendance and for the registration of pupils will be found in Bulletin No. 2, pages 108-114; 156-158.

## ORGANIZATION AND MANAGEMENT

14 (1) While the Advisory Committee will take a general oversight of the organization of the classes, it is important that they should be under the charge of a principal who possesses both executive ability and general mechanical knowledge. The principal should have full control of the industrial courses, subject to the Advisory Committee.

In very large schools he should have no class directly under his charge but in the smaller ones he may teach part of his time. The appointment of such a principal is all the more necessary when it is considered that the majority of the assistant teachers will be practical men and women from the shops with little or no experience in teaching and in solving the problems of the class-room. For these, the principal's assistance and direction are indispensable. The principal should keep in close touch with the factories and other industries in order that the instruction may meet the needs of the local industrial situation.

(2) The principal should report monthly to the Committee. His report should show for each subject the number registered, the number in attendance each night, the average attendance and the percentage of the registered attendance. The registers should be kept and marked in ink. They should show for each student the name, address, occupation, country of birth, age if a minor, and previous training. Where fees are charged the Principal should be instructed to remit them, if in his judgment the financial condition of the student or his parents renders it advisable to do so. This will of course be done privately. Every effort should be made to keep up the attendance. The cause of absence or discontinuance should, in every case, be sought for. In some schools reply cards are sent

to absentees, but a much better plan is to obtain the facts through personal inquiries by the teachers or members of the Committee. The names of persistent absentees who cannot account satisfactorily for their absence should not be retained on the register. The Day School authorities should provide the principal of the Evening School with a record of every boy and girl showing character, ability, attainments, etc.

(3) After the organization of the Committee and the appointment of the principal, a general investigation should be undertaken of the industries of the district, with the object of discovering the subjects most desirable and feasible, and the kind of instruction required by the employers and needed by the employees. At the same time employers should be urged to show a practical, not merely an academic, interest in the industrial classes, by granting certain privileges, bonuses, increases of wages, or promotion to employees taking satisfactory courses of instruction.

(4) Every effort should be made to induce students to take up related courses of study rather than isolated subjects. Classes should be small. No class should exceed twenty: fifteen is a better number. No matter what system of classification is adopted, much of the instruction must be individual. In this work particularly, the more the individuality of the pupil is recognized and the more his special requirements are taken into consideration, the more regular will be his attendance and the more satisfactory will be the results.

(5) The classification of students should depend upon the age, the occupations, and the qualifications of those who apply for admission. The classes for men and women should, where possible, be distinct from those for boys and girls. Adults do not care to show their lack of knowledge or training before children. It is frequently necessary to organize even in the same subjects different classes for persons of different occupations. For example, the drawing or the mathematics (beyond the rudiments) required by the carpenter is different from that required by the machinist. No student should be admitted to a class who is unable through lack of preliminary training or other cause to take full advantage of the instruction offered.

(6) The methods of approaching subjects in the evening voluntary classes should differ materially from those employed in the day schools. Students in the evening classes have a tendency to become discouraged and to discontinue their attendance if they do not see, almost immediately, the bearing of the instruction on their daily work. In subjects with a practical bearing, such as, mechanical drawing, mathematics, and science, they should not be kept working at preliminary plates, exercises, and problems which with their limited knowledge they can not recognize as being of practical value. Work in all subjects should begin with shop problems of immediate use. The theoretical work necessary to the solution of the practical problems should at first be taught incidentally. After the student

is convinced of the applicability of the instruction to his needs he will be quite willing and anxious to study the principles on which the problems are based. Drawing should be taught more generally from specifications than from plans and plates which require only copying to the same or a different scale. Where practicable the teacher should prepare a summary of each lesson in the form of typewritten sheets or cards, which should be handed to the students at the close of the lesson. This method enables students who are unavoidably absent to keep up the continuity of the work and gives all an opportunity for review before the commencement of another session.

(7) In the case of schools already established, second year classes should be provided for those who have taken a first year's course. First and second year students should not be taught together and no attempt should be made to take pupils over work a second time except in so far as a preliminary review is necessary.

(8) While Evening Industrial Classes and Night Public School Classes or Night High School Classes may be held in the same building and at the same time, it is to be noted that these different kinds of classes are under the management of different authorities. For particulars regarding Night Public School Classes and Night High School Classes, see Regulations and Course of Study of the Public Schools and Regulations and Course of Study of the High Schools.

It is to be noted also that while certain branches, such as arithmetic and bookkeeping, may be subjects of instruction in Night Public School Classes or Night High School Classes and also in Evening Industrial Classes, only those classes in which such branches are taught with a distinctively industrial bias are to be carried on under the authority of an Advisory Industrial Committee. For example, classes in general bookkeeping, typewriting, and stenography are not to be classified as industrial, but classes giving instruction either in the simple accounts required by mechanics, or in the more specialized forms of bookkeeping required by builders, contractors, or persons in other industrial occupations in estimating, cost accounting, etc., may be so classified.